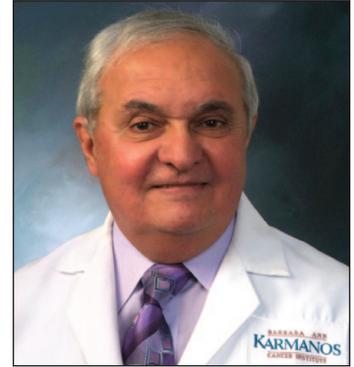

LEGENDS IN UROLOGY

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When Gabriel Haas, past Editor-in-Chief of the Canadian Journal of Urology and former colleague asked me to write for the Legends in Urology, my first reaction was to write about a Urologist in Brazil, the late President Juscelino Kubitchek, the architect of Brasilia and the father of Brazilian industrialization. In a recent meeting in Portugal, Gabe discussed with me the concept of Legends in Urology, sharing the articles of many friends who have been included in the series. I feel humble being asked to participate in this project.

I was born in Brazil and spent my first 23 years there, before coming to the USA for training. As I had a tutor for the first 5 years of school, I moved quickly in the educational process, finishing medical school at age 22 at the Federal University of Ceara. I moved to Rio de Janeiro in 1965, where I did a preceptorship with Dr. Fernando Paulino, who received his postgraduate training in Boston and instituted the modern concepts of surgery in Brazil. He was the first Brazilian member of the American College of Surgeons Board, and had a great influence in my career.

I began my training in 1966 as an intern at Grace Hospital, and finished a urology residency at the Wayne State University program in 1971. I chose Urology as a surgical specialty because I could see the expansion of the specialty in the areas of pediatric urology, micro and vascular surgery.

Following the advice of Professor James Pierce Jr., I spent my first 3 years post residency working in basic immunology research under Professor Noel Rose. These years were the happiest of my professional life, as I interacted and learned from scientists, among others Dr. Byong Choe. I developed skills in a wide area of immunological techniques, from purification of prostatic acid phosphatase (PAP), to the development of immunohistochemical assays to detect prostatic epithelial cells, and cell culture techniques. I wrote and co-wrote several articles on the culture of prostatic epithelial cells and the identification of prostatic epithelial cells by indirect immunofluorescence, and entered the debate of HeLa cell contamination of two prostatic cell lines: MA160 and EB33. Clinically we identified a patient with pancreatic cancer whose tumor was producing prostatic acid phosphate, immunologically cross reactive with PAP.

One day Dr. Pierce called me and said "Pontes, we have been paying your salary for 3 years as an assistant professor and it is time to get back to clinical work". You are now the Chief of Urology at the Detroit Receiving Hospital (DRH). At the time the DRH was a general hospital and a trauma center. I took the opportunity to return to challenging trauma and elective cases. There I developed a particular interest in pelvic surgery, and refined the techniques of retropubic prostatectomy. My clinical expertise expanded to include kidney transplantation and microsurgery. I showed that kidney allograft rejection could be specifically diagnosed by Indium 111 labeled lymphocytes and that lymphoceles in kidney transplant patients were the result of allograft lymphatic drainage. I also published articles on the biological effects of short course radiation on patients with transitional cell carcinoma of the bladder, and established a cell line from a previously radiated patient. While on the faculty of Wayne State University (WSU), I was funded to participate in the programs of the National Prostate Cancer Project (NPCP) and the National Bladder Cancer Project (NBCP) developing the initial clinical trials in prostate and bladder cancer. Among my professional accomplishments I list the application of Meier L. Prentis Cancer Center for a Comprehensive Cancer Center designation. Noel Rose and I presented our data on purification of PAP and the development of immunoassays for identification of PAP producing cells and clinical serological tests. I believe these findings ultimately helped to gain approval with the NCI designation.

In 1980, as an associate professor at WSU, I was offered a position as the Chief of Urological Oncology at the Roswell Park Memorial Institute (RPMI) in Buffalo New York.

At RPMI I had the unique opportunity of interacting with many of the pioneers of cancer research. It was the most productive time of my academic life, as I interacted and collaborated with scientists like A. Sandberg, L. Weiss, M. Goldrosen, Ming Chu and many others.

For the next several years, we performed studies on the effects of nitrofurantoin in bladder cancer, the absorption of mitomycin from the bladder the role of photodynamic therapy in bladder cancer, and several experimental studies with the RENCA tumor line in mice. Together with A. Sandberg and Z. Gibas, I published the initial work on the chromosomal abnormalities in genitourinary tumors, (testis, kidney and bladder).

Because of my interest in immunology, we secured a grant from the NIH, and did a study with C. McCune (University of Rochester NY) and J. de Kernion (UCLA) on an autologous vaccine for metastatic renal cell carcinoma. From that work, we established a renal cell carcinoma cell line on a patient who had a complete response to immunotherapy.

In 1982 I received a grant from the UICC and spent approximately 3 months in Kyoto Japan, at the Prefecture University of Kyoto under Professor Hiroki Watanabe who developed of the first practical prostatic transrectal ultrasound. I brought the first Aloka transrectal ultrasound to the USA. When I arrived at RPMI in 1980, radical prostatectomy was not done in large numbers. I practiced the technique of apical dissection during radical cystectomy procedures, since then I have performed radical prostatectomy by a combination of retrograde and antegrade dissection. During that time we published some of the initial work on prognostic factors in radical prostatectomy specimens and the initial work on salvage surgery of the prostate after failure of radiation therapy. In Buffalo, at the RPMI, I was part of a group with A. Sandberg, G. Murphy and J. Karr which created *The Prostate* publication, and I became the editor for 5 years. As my tenure ended at RPMI, I was privileged to participate in a meeting, sponsored by Gerry Murphy and the National Prostatic Cancer Project (NPCP) on critical issues in prostate cancer. At that meeting P. Walsh, presented his series in nerve sparing radical prostatectomy and D. Gleason, K. Mostofi and J. Gaeta their histological classification for prostate cancer.

Near the end of 1984, I was offered a position as the head of the section of Urologic Cancer at the Cleveland Clinic Foundation (CCF). The large number of complicated referral cases at the CCF gave me the opportunity to expand my expertise in urological cancer.

In association with J. Montie, A. Novick we pioneered the areas of renal sparing surgery and with T. Cosgrove we defined the challenges of surgery of renal cancer with vena cava involvement. In clinical immunology, I collaborated with R. Bukowski and J. Finke in the use of tumor infiltrating lymphocytes (TILs) and of lymphokines in patients with metastatic renal cell carcinoma. I continued to collaborate with R. Tubbs in renal cell carcinoma research in the areas of circulating cancer cells, and established two cell lines from the same patient, one from the primary tumor and the other from circulating cancer cells. In bladder replacement, following radical cystectomy, we evaluated different bowel segments to be used in neobladders. While at the CCF, I had the privilege to serve in a study section of the National Institutes of Health from 1986 to 1988. I also became one of the founding members of the Society of Urologic Oncology.

In 1990, I was offered the position of Professor and Chair of the Department of Urology at WSU/SOM in Detroit, Michigan. In Detroit I expanded the Urologic Oncology program, initially with Gabriel Haas, and subsequently with the recruitment of J. Montie and D. Wood. Several publications ensued in prostate, bladder and kidney cancer. A cardinal paper on a project started by Gabriel Haas, and continued by W. Sakr on the prevalence of cancer of the prostate in the general population has provided a glimpse on the intricate epidemiology of this disease.

Upon my arrival in Detroit as the department Chairman, I instituted an aggressive agenda to make the department one of the premier programs in the country. Together with Alan Perlmutter, we established a strong Pediatric Urology program. After Alan's retirement, Ricardo Gonzalez and then Gordon McLorie were recruited as chiefs of Pediatric Urology. C. B. Dhabuwala created a strong section of sexual dysfunction and infertility. I recruited

Richard Santucci as the head of trauma and reconstruction surgery and Michael Cher a physician scientist who is now my replacement as Chair.

During my tenure as Chair, I secured four endowed Chairs, and a major endowment for training Brazilian investigators in prostate cancer research.

As the Dean for International Affairs for 3 years, I developed an affiliation between WSU/SOM with medical schools in Brazil, France, Turkey and Japan. This exchange of students has provided an excellent opportunity for a global view of medicine to our trainees.

I received several honors from my home country in recognition to my commitment to Brazilian urology: Gold medal from the Brazilian Cancer Society (1982), Sereia de Ouro (1989), Professor Honorius Cause , Federal University of Ceara (1993), Honorary member of the Brazilian Society of Urology (1993), Medal of Honor Brazilian Department of Justice (1994) and Honorary member of the Brazilian Academy of Medicine (1995).

In 2003 I stepped down as the Chair of the department, continuing my practice of urological cancer, and using my academic time as an Assistant Dean for International Affairs.

I thank my wife Susan and my sons Daniel and David for their unwavering support of my academic career. Many sacrifices were involved during moves to different institutions and frequent travels.

In my 40 years in academic Urology I've had the opportunity to train a large number of residents and fellows, many now in leadership position in academia. It is rewarding to meet them at conferences and to receive calls for advice. I treated and provided medical advice to several world leaders, and interacted with three Nobel Laureates in Medicine. It has impressed me how humane and humble these leaders are.

As I reflect on my accomplishments and the future of urologic cancer, I have both a great enthusiasm for new technologies but also concerns about their use. I believe we should embrace new technologies as a tool in modern surgery (minimally invasive surgery, robotic surgery) but the principles of anatomy should be acquired and respected. The creation of univision surgeons who cannot cope with immediate decisions during a procedure is a disservice to the profession. With fingertip access to information, many trainees are using this information to replace knowledge. My hope is that the new educators will bridge the gap from easy access to information to acquisition of knowledge. As urologic oncology changes from an era of prospective randomized trials to personalized medicine, a new paradigm is needed to respond to this challenge.

As a surgeon there will come a day in which your skills change. The key for all of us is to know when to exit before being asked to. About 15 years ago, I started a second career as a vintner, and started growing Pinot Noir in an area in Michigan similar to the Alsace region of France. In this new venture my scientific curiosity continues to guide my enthusiasm, from the complexities of the genome of this grape to its spontaneous mutation in nature. I am also learning the complexities of making good wine, from the use of chemistry to the intuition expressed by our wine makers. The process is awesome! There is life beyond Urology after all!!

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